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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,053	11/21/2001	Matthias Riepenhoff	70366	1467

7590 11/19/2003
McGLEW AND TUTTLE, P.C.
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EXAMINER

PHAM, HAI CHI

ART UNIT PAPER NUMBER

2861

DATE MAILED: 11/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/990,053

Applicant(s)

RIEPENHOFF, MATTHIAS

Examiner

Hai C Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9 and 12-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7,9 and 12-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Duplicate Claim Objection

1. Claim 7 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 1. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Objections

2. The following claims are objected to because of the following informalities:

Claim 22:

- The following limitation “wherein the laser is an edge-emitting laser emitting laser light from an essentially one dimensional edge” at lines 1-2 appears to be redundant with respect to the base claim 21, and should be deleted.

Claim 23:

- The following limitation “wherein the laser is an edge-emitting laser emitting laser light from an essentially one dimensional edge” at lines 1-2 appears to be redundant with respect to the base claim 1, and should be deleted.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 12-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Iwasa et al. (U.S. 6,144,685).

Iwasa et al. teaches a surface-emitting laser array beam scanner including a first scanning optical system (21) made of a spherical lens and a second scanning optical system (22) made of an aspherical lens for printing an image on the photosensitive drum (15) (Fig. 10A), the laser light beam emitted from a surface-emitting laser array being focused onto desired spots forming a strip corresponding to the area element to be exposed on the surface of the photosensitive drum (strip width and height corresponding to the dimension of the two-dimensional laser array) (see Fig. 9A), the

strip being swept continuously such that the entire height of the printing area of the photosensitive drum is exposed.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-2, 7, 14, 19, 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwasa et al. in view of Saitoh et al. (U.S. 5,684,523).

Iwasa et al. discloses a surface-emitting laser array beam scanner including a first scanning optical system (21) made of a spherical lens and a second scanning optical system (22) made of an aspherical lens for printing an image on the photosensitive drum (15) (Fig. 10A).

However, Iwasa et al. does not teach the provision of an edge-emitting laser providing a one-dimensional light source (claim 1), and one of the lens being a cylinder lens (claims 2, 14).

Saitoh et al. discloses an optical line printhead provided with a one-dimensional light emitting source, which can be either a surface-emitting laser array or an edge-emitting laser array (col. 15, lines 7-12), and thus shows that the one-dimensional edge-emitting laser array is an equivalent structure known in the printing art. Therefore, because these two structures were art-recognized equivalents at the time the invention

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was made, one of ordinary skill in the art would have found it obvious to substitute the edge-emitting laser array for the surface-emitting laser array in the device of Iwasa et al.

Saitoh et al. further teaches the use of cylinder lens (811a or 812a, Fig. 38), which does not cause the divergence or convergence of the laser beam in the horizontal scanning direction. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate a cylinder lens as taught by Saitoh et al. in the device of Iwasa et al. The motivation for doing so would have been to allow the laser beam spot to expand only in the vertical direction on the surface to be scanned.

With regard to claims 22-23, Iwasa et al. further discloses the focused laser light beams forming a strip area with a height much smaller than a width whereby the strip area is moved relative to the drum.

7. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwasa et al. in view Ishihara et al. (JP 9-211280).

Iwasa et al. discloses all the basic limitations of the claimed invention except for the lenses being integrated as an optical element.

Ishihara et al. discloses an optical system having a spherical lens (8) and an aspherical lens (2) being cemented as an integral optical system. for the purpose of suppressing the spacing and eccentricity errors.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Iwasa et al. with the

aforementioned teaching of Ishihara et al for the purpose of suppressing the spacing and eccentricity errors as suggested by Ishihara et al. (see Ishihara et al.'s problem solving).

8. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwasa et al. in view of Saitoh et al., as applied to claim 1 above, and further in view of Ishihara et al.

The modified Iwasa et al. discloses all the basic limitations of the claimed invention except for the lenses being integrated as an optical element.

Ishihara et al. discloses an optical system having a spherical lens (8) and an aspherical lens (2) being cemented as an integral optical system for the purpose of suppressing the spacing and eccentricity errors.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the integral scanning lens as taught by Ishihara et al. in the modified device of Iwasa et al. for the purpose of suppressing the spacing and eccentricity errors as suggested by Ishihara et al. (see Ishihara et al.'s problem solving).

9. Claims 17-18, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwasa et al. in view of Nakamura et al. (U.S. 5,745,296).

Iwasa et al. discloses all the basic limitations of the claimed invention except for the focusing points coinciding with one another.

Nakamura et al. discloses a multi-beam recording device including a set of scanning lenses (21 and 22) arranged between the emitter unit (10) and the recording medium (P) such that the focal point of the first lens unit (21) coincides with the focal point of the second lens unit (22) (Fig. 1) for the purpose of correcting decentering errors. Nakamura et al. further teaches the first lens unit (21) being disposed in front of the emitter unit (10) such that the focal point of the first lens unit is at a greater distance than the first lens unit to the light-emitting area of the emitter unit (Fig. 1).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Iwasa et al. with the aforementioned teaching of Nakamura et al for the purpose of correcting decentering errors as suggested by Nakamura et al.

10. Claims 5-6, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwasa et al. in view of Saitoh et al., as applied to claim 1 above, and further in view of Nakamura et al.

Iwasa et al., as modified by Saitoh et al., discloses all the basic limitations of the claimed invention except for the focusing points coinciding with one another.

Nakamura et al. discloses a multi-beam recording device including a set of scanning lenses (21 and 22) arranged between the emitter unit (10) and the recording medium (P) such that the focal point of the first lens unit (21) coincides with the focal point of the second lens unit (22) (Fig. 1) for the purpose of correcting decentering errors. Nakamura et al. further teaches the first lens unit (21) being disposed in front of

the emitter unit (10) such that the focal point of the first lens unit is at a greater distance than the first lens unit to the light-emitting area of the emitter unit (Fig. 1).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Iwasa et al. with the aforementioned teaching of Nakamura et al for the purpose of correcting decentering errors as suggested by Nakamura et al.

Response to Arguments

7. Applicant's arguments with respect to claims 1-7, 9, 12-23 have been considered but are moot in view of the new grounds of rejection presented in this Office action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C Pham whose telephone number is (703) 308-1281. The examiner can normally be reached on T-F (8:30-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin R. Fuller can be reached on (703) 308-0079. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722, (703) 308-7724, (703) 308-7382, (703) 305-3431, (703) 305-3432 for regular communications and for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



HAI PHAM
PRIMARY EXAMINER

November 14, 2003